Department of Water Resources
State Water Resources Control Board
Department of Health Services

2002 RECYCLED WATER TASK FORCE

White Paper
of the
Regulations and Permitting Workgroup

Rough Unedited Draft: 17 November 2002

WHITE PAPER OF THE
REGULATIONS AND PERMITTING WORKGROUP

INTRODUCTION

The 2002 Recycled Water Task Force was established by Assembly Bill 331 (Goldberg), passed by the California Legislature and approved by Governor Davis on October 7, 2001 (Water Code Section 13578). The Task Force is a cooperative effort of the California Department of Water Resources (DWR), the State Water Resources Control Board, and the Department of Health Services. The Task Force is charged with evaluating the current framework of State and local rules, regulations, ordinances, and permits to identify the opportunities, obstacles or disincentives to maximizing the safe use of recycled water. The recommendations of the Task Force must be reported to the Legislature by DWR before July 1, 2003.

The Task Force is composed of 39 members representing federal, state, and local governmental and private sector entities, environmental organizations, and public interest groups. To accomplish the Task Force mission, six workgroups were created to address specific issue areas. The workgroups contain Task Force members and other interested participants. The workgroups were intended to review all of the issues raised within their issue areas, select priority issues for in-depth analysis, and make recommendations to address the priority issues. The results of their findings were to be presented in the form of white papers to the Task Force. The white papers contain background information, analysis, and recommendations to assist the Task Force in its deliberations.

While the Task Force report will be presented to the Legislature, the recommendations are not restricted to legislative actions or statutory changes. In many cases the recommendations would require actions by state or local agencies without the need for legislative authorization or mandate.

The main charge of the Regulations and Permitting Workgroup is to review the laws, regulations, and regulatory agency practice pertaining to recycled water, to suggest amendments to remove the impediments to the safe use of recycled water, and to propose uniform regulatory application of standards throughout the state. The members of the workgroup are listed in Appendix A. Additional people participated in the meetings.

This workgroup began its work with consideration of a comprehensive list of issues that were proposed to the Task Force for consideration, as shown in Appendix B. These were distilled to five issues that were most compelling:

1. Lack of uniform interpretation of state standards
2. Regulation of incidental runoff
3. Permitting procedures
4. Water softeners and source protection
5. Local jurisdictional conflicts

These issues are addressed in order in following sections. Each section will contain a brief description of the issue, background information and examples or case studies of actual instances illustration the issue, analysis and discussion of alternatives to resolve the issue, and recommendations.

UNIFORM INTERPRETATION OF STATE STANDARDS

The most important state standards and regulatory programs that affect water recycling fall into two categories: public health and water quality. The Department of Health Services (DHS) is responsible for adopting uniform statewide recycled water criteria related to public health and for advising the Regional Boards in their drafting of permits for each recycled water system. DHS has 21 districts in the state, which do not always uniformly interpret the state standards. County health departments also have jurisdiction over some aspects of recycled water use. In some areas, local health departments have elected to operate programs to control cross-connections. There are instances where local requirements have exceeded the requirements in state regulations, imposing an additional burden on water recycling systems and, perhaps, exceeding local authority.

Water quality regulations and the issuance and enforcement of permits for the use of recycled water are administered by nine Regional Water Quality Control Boards (RWQCB) under the overall jurisdiction of the State Water Resources Control Board (SWRCB). Each Regional Board is controlled by independently appointed boards. Due to different hydrologic conditions, water quality issues and regional perspectives, the interpretation of laws and regulations governing recycled water has not always been uniform throughout the state.

Inconsistent regulation of water recycling by state and local officials leads to confusion and uncertainty in how to design and manage water reuse systems and appears to have led to overly restrictive regulation and added costs, creating an obstacle to achieving the full potential for water reuse. This paper will review the regulatory framework of water reuse in California, describe the legal basis of authority, cite specific problems that have been encountered, and make recommendations for consideration by the 2002 Recycled Water Task Force. Referenced state statutes and regulations are provided in Appendix X.

Background

Regulatory Framework

All systems where recycled water is used are regulated by the RWQCBs. Permits can be issued to the producer, distributor, or user of the recycled water (Water Code Sections 13263, 13523, 13523.1). DHS is required to establish uniform statewide recycling criteria, which have been incorporated into Title 22 of the California Code of Regulations (Water Code Sections 13520-13521; CCR Sections 60001 et seq.). A RWQCB must consult with DHS prior to issuing a permit, incorporate relevant provisions of the uniform criteria in Title 22 into the permit, and may incorporate other requirements recommended by DHS to protect public health. The provisions of Title 22 incorporated in the permits are enforced by the RWQCBs, not DHS.

Uniform Statewide Recycling Criteria. The Water Code provision authorizing uniform statewide recycling criteria is worded thus:

- 13520. *As used in this article "recycling criteria" are the levels of constituents of recycled water, and means for assurance of reliability under the design concept which will result in recycled water safe from the standpoint of public health, for the uses to be made.*
- 13521. *The State Department of Health Services shall establish uniform statewide recycling criteria for each varying type of use of recycled water where the use involves the protection of public health.*

In accordance with these sections, the uniform statewide criteria in Title 22 establish the acceptable uses of recycled water, the wastewater treatment requirements for each use, use area requirements, engineering report requirements for proposed projects, reporting and record keeping requirements, and design requirements to ensure operational reliability of treatment.

Cross-connection Control. The use of recycled water in the proximity of potable water creates the risk of cross-connections between the water systems and the contamination of potable water. The white paper of the Plumbing Code/Cross Connection Control Workgroup describes incidences of such cross-connections. To help prevent cross-connections or the “backflow” of recycled water into potable pipes if a cross-connection exists, there are provisions in state law and regulations to protect public water systems and to protect the potable piping on the site of the user

from contamination. For the purposes of protecting public water systems from contamination due to cross-connections occurring on a water user's premises, DHS has adopted requirements in Title 17 of the CCR (Sections 7583-7605). Title 17 specifies backflow prevention devices or features depending on the conditions on the use site and the degree of public health risk.

The primary burden of enforcing the provisions of Title 17 falls upon the suppliers of potable water. The relevant state statutes are in the Health and Safety Code:

- 116800. *Local health officers may maintain programs for the control of cross-connections by water users, within the water users' premises, where public exposure to drinking water contaminated by backflow may occur. The programs may include inspections within water users premises for the purpose of identifying cross-connection hazards and determining appropriate backflow protection. Water users shall comply with all orders, instructions, regulations, and notices from the local health officer with respect to the installation, testing, and maintenance of backflow prevention devices. The local health officer may collect fees from those water users subject to inspection to offset the costs of implementing cross-connection control programs.*
- 116805(a). *Local health officers may maintain programs, in cooperation with water suppliers, to protect against backflow through service connections into the public water supply, and, with the consent of the water supplier, may collect fees from the water supplier to offset the costs of implementing these programs.*
- 116805(b). *The fees authorized under this section and under Section 116800 shall be limited to the costs of administering these programs. At the discretion of the water supplier, the fees collected from the water supplier by the local health officer may be passed through to water users.*
- 116805(c). *Programs authorized under this section and Section 116800 shall be conducted in accordance with backflow protection regulations adopted by the department [DHS].*

Title 17 provides that the water supplier may contract with the local health agency or another agency approved by the health agency to conduct the cross-connection program (Section 7584).

To protect occupants of a user premises from public health risk from cross-connections, DHS has prescribed design review, design features, and cross-connection tests for dual-plumbed buildings and residential landscape irrigation (CCR Sections 60301.250 and 60313-60316). There are additional provisions in Appendix J of the Uniform Plumbing Code (CCR Title 24) related to plumbing in buildings. Some local jurisdictions have been enforcing these provisions. However, it has been determined that Appendix J was never adopted by a California state agency for incorporation into the California Plumbing Code (CCR Title 24). This legal void is being addressed by the Plumbing Code/Cross-connection Control Workgroup of the 2002 Recycled Water Task Force. A revised version of Appendix J will be proposed for adoption in California. There are no other regulations addressing cross-connections in commercial or industrial facilities or urban landscape areas aside from individual residences.

An area of contention is whether there exists local health agency authority to impose requirements on water user premises to protect occupants of the premises from exposure due to cross-connections. Title 17 regulations address only protection of public water systems. Local health agencies have cited Health and Safety Code Section 116800 as authority for broader activities. However, when Section 116805(c) is considered, local health authority may be confined to enforcing provisions of Title 17. There are examples of at least one county health department imposing requirements intended to protect occupants on user premises. Whether local health agencies have authority to impose either requirements more restrictive than specified in state regulations or requirements not addressed in state regulations may be an issue calling for a legal review.

Examples

There are several examples of lack of uniform application of statewide standards, application of standards not specifically authorized in state regulations, or excessive requirements not warranted by the degree of public health risk:

- A local health authority has required annual inspections and periodic shut-down testing of recycled water customer sites in situations not covered in Title 17 or in the dual plumbed systems provisions in Title 22 (Sections 60313 et seq.). Shut-down tests are especially onerous for commercial and industrial facilities that operate 24 hours a day. The health authority currently acknowledges that it misinterpreted Title 22.

- A local health agency requires annual shut-down tests where frequent or unmonitored plumbing changes are likely to occur or where the occupants of in-building use are at-risk populations (e. g. hospitals, day care centers). Where a shut-down test would be impractical, such as in hospitals, thorough annual inspections are permitted. In lieu of annual shut-down tests, a member of the use site staff can be certified as CA/NV AWWA Cross-connection Specialists. This certification requires at least 80 hours of classroom training and passing two levels of testing. None of these provisions are required by Title 17 or Title 22 regulations.
- A local health agency did not permit a recycled water use in a building even though such use is allowed by Title 22.
- A local health agency required monitoring for a virus species that has never been used in establishing the virus removal standard for recycled water and required the monitoring not only in the treatment plant effluent but also in a storage pond, where natural sources of the virus would be expected. Such virus monitoring is not required in Title 22.
- A staff person from a district office of DHS specified water quality monitoring that is not required in Title 22 and does not appear to have been justified for water quality protection.
- RWQCBs regulate incidental runoff resulting from overflow of golf course ponds during storm events differently. The most restrictive RWQCBs regulate the commingled recycled and storm water runoff as a point source waste discharge, apparently without evidence of a potential water quality problem. This issue is addressed in detail in the section of this white paper dealing with incidental runoff.

Analysis

In an effort to minimize the potential for public health risks, California regulators have enacted the most stringent water quality requirements for recycled water in the world. Depending on the level of public exposure and expected health risk, DHS has prescribed levels of treatment ranging from undisinfected secondary treatment to filtration tertiary treatment with a high level of disinfection for nonpotable uses of recycled water. Even higher levels of treatment may be required for indirect potable reuse. The recycled water for most urban uses (what is often referred to as "unrestricted use") must comply with filtration tertiary treatment with a high level of disinfection. A comparison of various states' criteria for "unrestricted urban reuse", where recycled water is applied in areas used by the public is presented in the following table.

State	**Clarity**	**Total Coliform** (per 100 ml)	**Fecal Coliform** (per 100 ml)
Arizona	5 NTU turbidity	No Limit	23 median / 75 max
California	2 NTU turbidity	2.2 median / 23 max	2.2 median / 23 max
Florida	5 mg/L suspended solids	No Limit	2 (75%) / 25 max
New Mexico	No Limit	No Limit	100 median / 100 max
Texas	3 NTU turbidity	No Limit	75 median / 75 max

When local health authorities or RWQCBs prescribe requirements more stringent than specified in Titles 17 and 22, there are two issues: 1) Is there a legal basis and 2) If there is a legal basis, are the requirements commensurate with the relative risk, considering in many cases the high level of treatment that is provided?

<u>More Restrictive Requirements</u>

The applicable statutes and regulations related to recycled water standards have been cited above. The uniform application and enforcement of state standards is desirable because these standards adopted in regulations have had a rigorous public review and evaluation to justify them, they provide a level of certainty needed in the planning and design of facilities to evaluate their feasibility, and they provide a stable and certain regulatory environment that is more effectively enforced. The use of the term "uniform statewide recycling criteria" implies a legislative intent that, at least with respect to Title 22 regulations, there should be consistency statewide. Nevertheless, there is certainly legal precedent in other arenas that local jurisdictions can adopt more restrictive requirements not specifically prohibited in law. There appears to be a need for a legal review to clarify this issue.

There is precedent in state law for specifically prohibiting more restrictive local regulations. The California Building Standards Commission has adopted the California Plumbing Code (CCR Title 24) and other similar

building codes. Building codes are intended to be consistent throughout California unless there is a material reason to change them through a public process. Pursuant to Health and Safety Code Section 17958.5, the governing body of a city or county, before making any modifications or changes to the California Plumbing Code, shall make an express finding that such modifications or changes are reasonably necessary because of local climatic, geological or topographic conditions. The findings must be established in a public process and with public record and filed with the California Building Standards Commission.

In another precedent the California Legislature has restricted and discouraged local jurisdictions from restricting desirable activities through local code changes (Health & Safety Code Sections 17958.7 – 17959.3). Examples of legislative protection include joint living and working quarters, solar energy systems, and passive solar systems and building design. There is opportunity for the Legislature to perform similar protections with recycled water to reinforce and strengthen the concept of adherence to the uniform statewide recycling criteria and discourage implementation of local rules that go beyond the statewide standards.

Regulatory Approach

The orientation of both board and staff at the regional boards is to stringently enforce regulations to minimize or eliminate discharge of pollutants. This orientation may become a liability when the same agency is expected to encourage water recycling and tries to use the same framework of waste discharge permits, orders, and staff to do so. Predictably, recycled water may be treated more like the problem than the solution. The section of this white paper addressing the issue of incidental runoff focuses on RWQCB involvement.

District engineers of the DHS have drinking water quality as a primary focus of their careers. Many seem to have no interest in being involved with "sewage water" and treat it as something to be restricted as much as possible.

There appears to be the need for mechanisms or strengthened mechanisms for state headquarters oversight of RWQCBs or DHS district offices to ensure uniform regulatory approaches and enforcement of state standards.

Florida seems to have recognized this problem and has taken bold steps to affect change.

The Florida Example

Florida has critical water quality and water supply problems. Water recycling has been an effective tool in addressing both problems. The state has aggressively pursued water reuse, resulting in over 50% of the wastewater generated in the state being recycled, as compared to California, where approximately 10 percent of wastewater is reused. There are many factors that could account for this high level of reuse. However, it is possible that Florida's regulatory environment may play an important role. Some features of Florida's programs are listed below:

- Reuse is an integral part of water resources management, wastewater management, and ecosystem management in Florida. It reduces demands on valuable surface and ground waters used for drinking water sources, eliminates discharges that may pollute valuable surface waters, recharges ground water, and postpones costly investment for development of new water sources and supplies.
- The Florida Legislature has established "The encouragement and promotion of reuse of reclaimed water and water conservation…" as formal state objectives in Section 403.064(1), Florida Statutes (F.S.), and Section 373.250, F.S. It is interesting to note that the objectives are included in the statute dealing with environmental and wastewater control, and the statute dealing with water resources and water supply. Florida's reuse program was implemented in response to the state reuse objectives.
- DEP's reuse program is charged with encouraging and promoting reuse in Florida, and also with protecting the public health and environmental quality. The DEP's Reuse Coordinator, who has primary responsibility for implementation of the reuse program, is located in the Domestic Wastewater Section of the Bureau of Water Facilities Regulation in the Division of Water Resource Management.
- Rule 62-40.310(d), F.A.C., establishes the mandatory reuse program. It requires water management programs to "Advocate and direct the reuse of reclaimed water as an integral part of water and wastewater management programs."
- The importance of water recycling is even conveyed on each and every page of Florida's rules and regulations with the slogan "Use it again Florida" featured on every page of the regulations.

Several of these features are shared by California. However, it may be instructive to investigate Florida's programs in more detail to see if there are lessons applicable to California. More information is available on the Florida Department of Environmental Protection Water Reuse website: http://www.dep.state.fl.us/water/reuse. It would be informative to invite a Florida official to California to share that state's experience with recycled water use.

Recommendations

The following recommendations provide a variety of possibilities to encourage water recycling and remove obstacles and impediments to the goal of achieving reasonable and uniform interpretation, administration, and enforcement of statewide criteria and regulations:

1. The SWRCB should appoint and empower a key person to provide oversight of the water recycling permits issued by the various regional boards. This person would act as an ombudsman to facilitate recycling and arbitrate conflicts.
2. The DHS needs to improve both knowledge and attitudes of district engineering staff who too often invoke requirements that are not supported by the uniform statewide recycling criteria.
3. Conduct a legal review to determine whether authority exists for local health agencies to adopt water recycling requirements that are more restrictive than those included in Titles 17 and Title 22.
4. Implement the concept of statewide uniformity that is practiced by the California Building Codes for DHS Title 22 regulations. Create a provision that the only way for local authorities to change the uniform statewide recycling criteria would be to prove that it is deficient based on local differences in climate, geology, topography, or other defined criteria.
5. Investigate the water recycling programs in Florida to determine whether there are concepts that should be adopted in California.

INCIDENTAL RUNOFF

[Note: The Incidental Runoff section still needs substantial editing.]

Recycled water applied for irrigation is intended to remain on the irrigated areas to avoid public health and nuisance problems from runoff. Permits, issued by the Regional Water Quality Control Boards, authorizing the use of recycled water for irrigation typically include provisions prohibiting runoff. Incidental runoff of minor amounts of irrigated water at the edges of irrigated areas is difficult to prevent. It is also difficult to prevent runoff of rainwater from areas irrigated with recycled water or from aesthetic ponds on golf courses filled with or previously filled with recycled water, especially during major storm events. Some regional boards strictly enforce the runoff prohibitions, resulting in the need for expensive design provisions or preventing the feasibility of using recycled water. These prohibitions have been dubbed the "one molecule rule," implying that the existence of one molecule of wastewater origin in runoff constitutes a discharge of wastewater. The following discussion will concentrate on the issue of overflow of golf course or similar ponds during storm events.

Subcommittee Objective

The objective of this subcommittee is to resolve the issue of runoff of commingled recycled and storm water during storm events and provide uniform interpretation and enforcement of this type of unintentional discharge throughout California. There is no scientific evidence that highly diluted recycled water when released to the environment has any negative impacts. In fact, the discharge of 100% recycled water (tertiary) is permitted directly to rivers, lakes and streams within California even where there is full body contact. However, this same recycled water, when commingled with rainwater is not permitted to run off a property and into those same rivers, lakes and streams. This has not been supported by good science.

Laws And Regulations

The relevant laws and regulations are found in both federal and state sources. The relevant text of these provisions are quoted in Appendixes C, D, and E.

Federal Clean Water Act

Section 301 of the federal Clean Water Act (CWA) requires effluent limitations for all point sources of discharge of pollutants into navigable waters, which has been interpreted to mean all surface waters, including ephemeral water bodies. A system to accomplish this is the National Pollutant Discharge Elimination System (NPDES), which is described in Section 402 of the CWA. This section provides that the NPDES program can be administered by states in compliance with federal guidelines. California administers the NPDES program through permits issued by the RWQCBs. Definitions of "discharge of pollutants," "point source," and "pollution" are found in Section 502.

The Clean Water Act does not have requirements specific to recycled water or its use.

Federal Regulations

[Note: Discussion will be added here.]

California Water Code

Most of the relevant provisions in the California Water Code are found in the portion known as the Porter-Cologne Water Quality Control Act, which is Division 7 of the Water Code, commencing at Section 13000. Chapters 7 and

7.5, which include Sections 13500 through 13583, of Division 7 is devoted to water reclamation. However, there are some additional sections which are important.

"Recycled water" means water which, as a result of treatment of waste, is suitable for direct beneficial use or a controlled use that would not otherwise occur and is therefor considered a valuable resource (Section 13050(n)).

Any person discharging or proposing to discharge waste that could affect waters of the state must file a report of waste discharge with the RWQCB (Section 13260). The RWQCBs issue waste discharge requirements (WDR) in accordance with Section 13263. These permits are equivalent to the federal NPDES permits and often a permit will be labelled as both an NPDES permit and WDR. General waste discharge permits that cover a category of discharges can be issued under certain conditions by either the SWRCB or the RWQCB (Section 13263 (i)). The RWQCB can waive the need to file a report of waste discharge or to issue a WDR for a specific discharge or a specific type of discharge if the waiver is not against the public interest (Section 13269). Such waivers cannot exceed five years in duration, but may be renewed.

Uniform statewide recycling criteria are issued by DHS in accordance with Section 13521. The RWQCBs issue water reclamation (recycling) permits under provisions of Section 13523. Water reclamation requirements can be issued to the entity producing the recycled water, the user, or both. The RWQCBs can also issue master reclamation permits under Section 13523.1, which includes more responsibility for the permit holder and includes WDR provisions for treatment plants. Section 13529.2 allows for minor unauthorized discharge of recycled water to waters of the state without the need to report such discharges to the RWQCBs.

Sections 13550 and 13551 provide that the use of potable water for many uses is a waste or unreasonable use of water if recycled water is available under four conditions.

California Code of Regulations

Article 4, Chapter 3, Section 60310 (e) of Title 22 of the California Code of Regulations states, "Any irrigation runoff shall be confined to the recycled water use area, unless the runoff does not pose a public health threat and is authorized by the regulatory agency."

Previous Work Related To Issue

Recycled water discharges were discussed as part of the State Water Conservation Coalition Reclamation/Reuse Task Force and the Bay Delta Reclamation Sub-Work Group, September 1990. A recommendation was presented by the sub-group as follows:

Reclaimed Water Discharges

In the California Water Code, reclaimed water is considered a waste, and the use of reclaimed water is permitted analogous to a waste discharge. As stated in the Code, waste includes sewage and any and all substances associated with human habitation or of human or animal origin.

Recommendation

Reclaimed water supplies are an important element in meeting future water demands and should be designated as a resource rather than a waste. A separate classification for reclaimed water would acknowledge the importance of this vital resource. The classification would emphasize the inherent benefits of reclaimed water that may not otherwise be considered if it is classified as a waste. Recognition of reclaimed water as a resource will improve public acceptance of water reclamation.

Implementation

With review and potential revisions to the Federal Clean Water Act being considered in spring 1991, EPA's region 9 should consider revisions to the Clean Water Act that would identify the beneficial uses of reclaimed water supplies instead of identifying these supplies solely as a waste discharge. Such legislation is currently being considered by the State Board and others. The State Board should continue to support legislation the at would designate reclaimed water as a resource and establish a classification within the Water Code for reclaimed water discharges.

Examples/Case Histories

The following provides a summary of some examples and case histories describing the statewide issue of incidental runoff related to pond overflows.

NOTE: We are waiting for a summary of Regional Board regulations of incidental runoff that has been prepared by Adam Laputz but has not yet been authorized for release. It will be integrated into this paper.

1. Golf Courses Statewide

The California State Water Resources Control Board, Office of Water Recycling prepared a survey which lists 125 golf courses using 27,317 acre-feet of recycled water annually. Most of these golf courses have ponds that store recycled water for decorative purposes. During the winter season, rainfall often fills the ponds which then overflows along with the stormwater. In most cases, the rainfall induced overflow is considered stormwater and no special regulatory requirements are required. Overflow of the ponds is considered to be incidental. In other cases, monitoring of the overflow has been required as part of the permit for recycled water use. In the most severe cases, regulators consider the ponds to be a point discharge of wastewater requiring a separate NPDES permit with the full gamut of regulatory requirements that are a part of an NPDES discharge. This last case has become known as the "one molecule rule" and is imposed if any amount of recycled water might be in the stormwater discharge.

In the "one molecule rule" case, regulators have given recycled water customers the choice of designing golf course ponds so that they will never overflow in 100 year storm events, which may be impractical to the function of a golf course. Another choice is to completely drain the ponds before the rainy season and then leave the ponds empty or refill them with drinking water so that any winter overflow is drinking water mingled with stormwater. This is an operational difficulty, often not possible due to limited drinking water supply, reduces the conservation of drinking water, and considering that the Clean Water Act also prohibits discharges of drinking water to storm drains, is a dubious solution from a legal standpoint. The California regulators point to the federal rules (Clean Water Act) and tell us that their hands are tied and that the USEPA makes the requirements to do this. Considering incidental stormwater runoff from golf course ponds to be a point discharge will discourage customers from using recycled water, in turn increasing the volume of wastewater discharged. This is the opposite of what is desired by regulators and water and wastewater agencies).

2. El Dorado Irrigation District, El Dorado County

EID has a recycled water system consisting of two Wastewater Treatment Plants (WWTP) and an interconnected transmission/distribution system. Initially, the two treatment plant delivery systems were separate with individual permits. The Deer Creek WWTP had WDRs which were issued in April 1994 and included the entire Serrano Development with specific discharge points at a golf course and wetlands mitigation site. The El Dorado Hills WWTP had a Master Reclamation Permit that was issued in May 1996. When construction of a pipeline to connect the two systems was completed, the request was made to eliminate the WDRs and provide a single Master Reclamation Permit (MRP) which included both WWTPs and the distribution facilities.

The Serrano Development has a series of ponds which are served with recycled water. During storm events, these ponds may fill with commingled storm and recycled water and overflow and therefore discharge into unnamed tributaries of near-by creeks. Since the adoption of the MRP and elimination of the WDRs, the ponds have overflowed into the storm drain which in turn flows into the unnamed tributary of a near-by creek. To manage the potential for discharge, a connection to the sewer system has been constructed which allows the discharge of the pond water into the collection system. Using this method of pond level control means that tertiary treated water is distributed to the system for use, discharged into the collection system, retreated at the WWTP, and then redistributed to the system. The CVRWQCB has requested EID to prepare a plan for compliance to prevent these overflows. EID is in the process of preparing a plan for compliance which includes Best Management Practices for the upcoming winter season and the potential for an NPDES permit for the long term. Application for the NPDES permit must include the full testing required under the California Toxics Rule, as the permit will be considered a discharge point similar to a WWTP.

3. City Of Roseville, Placer County

The City of Roseville began planning for recycled water use in 1991 and has developed it's use as a valuable resource. In October 27, 1999, the CVRWQCB became aware that the Del Webb and City of Roseville golf courses were designed for a combined stormwater/recycled water system and then proceeded to investigate this situation.

On February 1, 2000, Roseville staff met with the CVRWQCB personnel to discuss a solution. Roseville proposed to turn the ponds into potable water irrigation on October 15 each year. The CVRWQCB claimed that the Clean Water Act indicated that if these ponds had one molecule of recycled water left in them, then any discharge of commingled recycled water and stormwater without a permit is illegal. The permit would require the same discharge requirements as those of the treatment plant. Roseville countered and said that was impossible and the CVRWQCB agreed. Roseville felt this effectively has stopped any recycled water use in the region. The CVRWQCB said that they encourage the use of recycled water, but that their hands are tied and the law must be enforced.

Roseville offered to tell Del Webb and the City Council that this would effectively stop the use of recycled water in the City and many other regions. This wasn't the intent and the CVRWQCB offered to allow the use if it could be demonstrated that a 100 year seasonal rainfall and the corresponding drainage area could be stored in the ponds. Any discharge of recycled water after this design criteria was met would be considered an "Act of God" and would not be subject to a fine. Roseville asked for the written policy that described this allowance and was told that there was no written policy, only that they had the authority to request this approach. Roseville agreed to investigate if the courses, as constructed, could comply with this "100-year seasonal rainfall storage" requirement.

Both Del Webb and City staff completed this evaluation. This evaluation demonstrated that storage of the 100-year storm season is not feasible without major reconstruction of the golf courses. The City met with Mr. Carlton, Executive Officer of the CVRWQCB, to discuss the interpretation and to develop an approach to solving the problem.

Subsequent to the meeting, the City has pursued the preparation of a new Master Reclamation Permit. However, there are still some hurdles that need to be overcome before a reasonable solution is achieved.

4. Sonoma County Water Agency, Sonoma County

Northwood Golf Course - The Northwood Golf Course is an existing land application for disposal of recycled water by the Russian River County Sanitation District. In 1998, it was determined that the use of recycled water could be increased through the addition of decorative ponds and water hazards filled with recycled water at the golf course. The RWQCB, Region 1, had several concerns with this project. Specifically, the RWQCB

was concerned with discharges to surface waters due to rainfall, discharges to groundwater due to percolation, and permitting the discharge to surface water as discharge is allowed seasonally to the Russian River with a limitation at 1% of the flow. This permit would be a NPDES permit. Subsequently, the Russian River County Sanitation District determined that the permit requirements for the use were too stringent and abandoned the project. Today, the golf course serves as a land application site only and does not have decorative ponds.

Line Break -

5. Rancho Murrieta, Sacramento County

Recommendations

Recycled water is vastly used across the State in ponds at golf courses and other facilities. Each of these ponds has the potential to overflow commingled recycled and storm water unintentionally during storm events. The benefits of using recycled water for this type of use is a significant savings of California's valuable water resources. This type of use is also consistent with the legislature goal to promote the use of recycled water.

The following is recommended for consideration by the 2002 Recycled Water Task Force:

1. A goal should be established that incidental discharge of commingled stormwater and tertiary treated recycled water from pond overflows should be treated the same as overflows with commingled potable water or stormwater alone unless specific local conditions warrant special water quality considerations. Within the framework of this goal, Table 1 provides a list of recommendations and the associated pros and cons of each action.

Table 1. Recommendations

Recommendation	Pros	Cons
<u>Statewide Regulation/General Permit</u> Convene a committee including representatives from the State Water Resources Control Board with support from the Federal EPA. The committee would be charged with development of statewide general permit requirements for ponds filled with recycled water. Within the general permit, unintentional discharges of commingled recycled and stormwater would not be treated as violations, but rather water that is a mixture of rainwater and recycled water that runs off a site as a direct result of rainfall. Specific requirements of the permit would include best management practices and a method of uniform enforcement across the state.	Uniform enforcement Less permitting requirements Can be accomplished in a timely manner	Need SWRCB and Fed EPA staff support
<u>Provide Scientific Evidence</u> Many recycled water producers and/or distributors have performed varied testing and monitoring of the recycled water distributed. A committee should be formed which request scientific information that supports allowable discharges of incidental runoff. This scientific evidence may be in the form of reporting requirements to regional boards, testing requirements for spills, State Implementation Plan (13267 letter), or other reports prepared for various reasons.	Data already exists	May or may not support incidental runoff discharge
<u>Regional Board Waiver</u> Request the Regional Water Quality Control Board to adopt a specific waiver of waste discharge requirements for unintentional recycled water overflows pursuant to Water Code section 13269.		
<u>NPDES Permit</u> Allow discharges under an NPDES permit with the following conditions: 1) Compliance point to be at the point of leaving the treatment plant rather than exit of the pond 2) WWTP NPDES permit may be used rather than a separate permit being required 3) Discharge points shall be defined in WWTP NPDES permit 4) Monitoring and testing shall be established relative to the pond/site 5) California Toxics Rule would apply to WWTP discharge only	Uniform Enforcement	Need supporting staff to revise
<u>Legal Review</u> Convene a committee to review the legal requirements of Federal and California EPA and other regulations to make changes and provide an interpretation of the rules and regulations. This review should include how other states address comparable situations in regulation and enforcement.	Uniform Enforcement	Need supporting staff to provide analysis Make take extensive amount of time

NOTE: This is inserted only as a temporary reference for the Incidental Runoff issue in case something here should be added to the Incidental Runoff discussion above.

To: Cindy Megerdigian/EID
From: Art O'Brien/City of Roseville
Subject: Recycled Water Task Force Regulations Workgroup
Date: Monday, September 23, 2002

This memorandum provides some input to certain issues that have been discussed at the permitting and regulations workgroup regarding the one molecule theory. I offer these for use in our white paper. As you may already know, I am not supportive of a general permit to be developed by the SWRCB to specifically address this issue. I have reviewed the general permit for stormwater, and concluded that it is confusing and onerous. I would expect the same outcome for a general permit for commingled recycled water discharges from impoundments.

NPDES Permit Requirements

The assertion that all discharges into the waters of the U.S., except stormwater discharges, require an NPDES permit under the Clean Water Act (CWA) is incorrect. As you are aware, the CWA requires permits for "point sources" that discharge into navigable waters of the United States. 33 U.S.C. § 1342. These permits are issued pursuant to the National Pollutant Discharge Elimination System (NPDES). All point source discharges from wastewater treatment plants are required to meet effluent quality limits based upon the performance of specified pollution control technologies, i.e., secondary treatment. 33 U.S.C. § 1311(b)(1)(B); 40 C.F.R. § 133.102. Permits must also contain further effluent limitations to achieve the water quality standards adopted pursuant to state law. 33 U.S.C. § 1311(b)(1)(C).

In California, authority to issue NPDES permits has been delegated to the state. Cal. Water Code § 13370; 33 U.S.C. §§1342(b); 40 C.F.R. § 123.1 *et seq*. California's Porter-Cologne Water Quality Control Act (Porter-Cologne), Cal. Water Code § 13000, *et seq*., sets forth the state's policy for water quality and is the primary means by which the state achieves compliance with CWA requirements. The California Legislature reiterates the importance of the state's program pertaining to the regulation of water quality. In Water Code section 13000, the Legislature declares:

> [T]hat the people of the state have a primary interest in the conservation, control, and utilization of the water resources of the state, and that the quality of all the waters of the state shall be protected for use and enjoyment by the people of the state.

To carry out the goals set forth in Porter-Cologne, the Legislature further declares "that the health, safety and welfare of the people require that there be a statewide program for the control of the quality of the water of the state." Id. Wastewater discharge requirements are an element of the statewide program for the control of water quality. Section 13263 of the Water Code provides for the adoption of wastewater discharge requirements. When wastewater discharge requirements are issued for point source discharges, they serve as the federal NPDES permit. 33 U.S.C. § 1342.

The specific assertion that all discharges, except stormwater discharges, must be permitted, ignores the CWA and EPA's implementing regulations which enumerate several exclusions to the NPDES permitting requirements. For instance, the term "point source" as defined and used under the CWA "does not include agricultural storm water discharges and return flows from irrigated agriculture." 33 U.S.C. § 1362(14); *see also* 40 C.F.R. § 122.2. Also, the EPA's implementing regulations enumerate several types of discharges that do not require NPDES permits. *See* 40 C.F.R. § 122.3, subparas. (a) through (g).

Potential Legislative, Rulemaking and Other Remedies

The other issue is the potential development of state legislation, rules and regulations, or a specific Regional Board waiver in order to address what many view as a draconian stance taken by some regulatory agency staff toward the "one-molecule theory". Obviously, there are numerous political and policy issues associated with pursuing legislation to accomplish this goal. Assuming those issue can be adequately addressed (which may be a significant assumption), you could consider pursuing an amendment to Water Code section 13523 or 13523.1, which enumerate the requirements for issuance of water reclamation permits. For example, these requirements:

(A specific example could be inserted if the workgroup desired)

Alternatively, you could consider adding or changing the definition of "discharge" within the Porter-Cologne Act in order to clarify that such overflows do not constitute a "discharge" that would be subject to waste discharge requirements under Water Code section 13260 *et seq*. For example, this language could include:

(A specific example could be inserted if the workgroup desired)

Lastly, you could request the Regional Boards to adopt a specific waiver of waste discharge requirements for said recycled water overflows pursuant to Water Code section 13269. In this regard, the Central Valley RWQCB is currently in the process of determining whether to renew its existing waivers for 23 different types of discharges covered under its Resolution 82-036. A waiver for such overflows could be developed and submitted to the Regional Board for its consideration during its current waiver renewal process.

SOURCE CONTROL

The salt content of recycled water has a significant effect on its use for irrigation and some industrial uses. In addition, toxic chemicals are presenting a problem in the use of reclaimed water for groundwater recharge. Salts and toxic chemicals can be difficult and expensive to remove at the wastewater treatment plant. Source control, that is, the prevention of the introduction of these constituents into sewers, can be the most cost-effective solution. Source control programs for sewer systems are required by law, but their emphasis has been on the protection of the viability of biological wastewater treatment systems and the environmental protection of receiving waters. More emphasis is needed on regulation to protect the quality of recycled water for reuse. Homeowner-regenerated water softeners add significant salts to sewers. Water softeners will be dealt with in the following section. This section will address the general issue of source control, providing background information on the presence of many chemicals potentially detrimental to water reuse, the legal authority for source control, a case study, and recommendations.

Background

The Concern

In recent years, with the advent of equipment and methods that allow detection of the many natural and man-made compounds in water, even at thresholds as low as a few parts per trillion, it has become apparent that presence and detection of foreign compounds in recycled water may become a serious impediment to its expansion in the near future.

The purpose of discussion of this issue to propose that source water quality contamination be considered as a serious potential impediment to recycled water expansion. With little data available at this time regarding the pervasiveness of contaminants in wastewater and the actual risks associated with such contaminants, the coverage of this issue in the media tends to leave the impression of higher risk than should be appropriate. As a result, unnecessary negative public perception could result in a significant impediment to the expansion of recycled water usage.

Over the last few decades, the formulation of chemicals with agricultural, industrial, and medical benefits has far surpassed the ability of water quality monitors to test for that vast array of these formulations. At the same time, the health and environmental impacts of many of the chemicals used to benefit society are not well understood. While some may be detrimental, many others may already exist naturally or are harmless, especially at very low concentrations.

The discovery of contamination in source water/wastewater can discourage potential recycled water producers and users, especially when the discovery is made after a recycled water system is in production and serving customers. The addition of processes for the removal of contaminants, or the replacement of recycled water with drinking water, can make water recycling cost prohibitive. The risk of being required to take such measures can prevent agencies from recycling water in the first place in order to avoid this risk. The potential risk of water contamination, even if the recycling agency adds expensive removal processes, can also scare away potential customers.

Source water quality is especially critical in potable reuse projects, due to the potential passthrough of chemicals to the recycled water and subsequent potential ingestion of any contaminants by humans. However, while human ingestion or contact with water used for irrigation or other non-potable is less likely, the perception of contamination can still lead to skepticism and a resulting impediment to recycled water expansion.

In an effort to safeguard the public, water and health experts have sought to improve detection methods and perform studies to assess the presence and effects of chemicals and other water quality constituents. Unfortunately, in many cases the ability of water agencies to detect constituents now precedes factual information on the risks of the presence of those same constituents. A paradox in these instances is that diligence on the part of recycling agencies to detect constituents may actually lead to premature, unfounded concern over the existence of some constituents.

Water recycling agencies will continue to be proactive in assuring that public health is protected at any cost. They are committed to only providing safe, high quality recycled water to their customers. To summarize, the concerns are two-fold:

- That water recycling could become cost-prohibitive due to contaminated source water/wastewater and
- That even appearance of source water/wastewater contamination can lead to negative public perception of water recycling

Both of these concerns potentially result in impediments to the expansion of recycled water use.

Legal Authority for Source Control

[Note: A discussion of this will be added.]

Orange County Water District (OCWD) Experience

OCWD manages the Orange County groundwater basin, including a seawater intrusion barrier. Recycled water from OCWD's Water Factory 21, blended with imported potable water, is injected into the basin to keep the Pacific Ocean from seeping into the lower reaches of the basin. OCWD proactively tests for various contaminants to ensure they are not injected into the basin, which provides the majority of the potable water for northern Orange County.

In 2000, OCWD discovered very low levels of N-nitrosodimethylamine (NDMA) in two drinking water extaction wells near the barrier. NDMA is a probable carcinogen found in pesticides, herbicides, plasticizers, cosmetics, rocket fuel, solvents, lubricants, polymers, chlorinated water and food, including milk and cheeses, soybean oil, canned fruit, beer and processed meats. NDMA is also naturally occurring in air, water and soil.

In 1999, OCWD was one of the first agencies in the state to test for NDMA. With a new method they developed themselves, OCWD was able to detect NDMA to levels below the current detection limit of 20 parts per trillion (ppt), down to as little as 1 to 2 ppt. The two wells showed levels of 34 and 35 ppt. As a precaution, the two affected extraction wells were temporarily taken out of service and an ultraviolet (UV) treatment system was installed at Water Factory 21 to remove the NDMA from the recycled injection water.

NDMA is found in much higher concentrations in some foods. For example, milk contains 90–100 ppt of NDMA, powdered milk about 3,000 ppt, beer 50–7,000 ppt, and processed meats 2,500–5,000 ppt.

In 2002, OCWD was continuing to proactively search for new contaminants of concern, including those identified by the California Department of Health Services (DHS) as compounds that may one day require a drinking water standard or Maximum Contaminant Level (MCL). Today, there are no Federal standards for these chemicals and safety levels vary among the states.

DHS has established action levels (AL) for approximately 50 compounds that have been identified for possible future regulation in drinking water. To date, OCWD has tested for all but 13 of these compounds in Water Factory 21. In some instances, OCWD's laboratory had to develop and verify its own testing methods in order to detect these compounds at the ALs established by DHS.

As a result of this proactive program, OCWD found a new compound, 1,4-dioxane, that exceeded California's AL of 3 parts per billion. The occurrence of 1,4-dioxane in drinking water is currently being studied by DHS, which has set the nation's lowest AL at 3 parts per billion (ppb). Since there is no Federal standard for 1,4-dioxane, other states have reviewed health data and set safety levels varying from 85 to 70 to 50 ppb in Michigan, Maine and Massachusetts, respectively. If the concentration is 100 times the action level in a well or water supply, DHS recommends that source be taken out of service. Preliminary testing of about 19 wells showed levels of 1,4-dioxane ranging from non-detectible to 20 ppb. OCWD found no wells anywhere near the 300 ppb level.

1,4-Dioxane is a manmade chemical primarily used as an industrial solvent stabilizer that prevents the breakdown of chlorinated solvents during manufacturing processes. Industrial solvents are used in degreasing, electronics, metal finishing, fabric cleaning, pharmaceuticals, herbicides and pesticides, antifreeze, membranes, paper manufacturing and many other applications. One source indicates 1,4-dioxane is found in manufactured food additives at the 10,000 ppb level and in a number of food products including shrimp, chicken, tomatoes, coffee and some condiments. Reports indicate that 1,4-dioxane is present in ordinary household products at comparatively high levels, including shampoos (50,000-300,000 ppb), liquid/dishwashing soap (2,000-65,000 ppb), baby lotion (11,000 ppb), hair lotions (47,000-108,000 ppb), bath foam (22,000-41,000 ppb) and other cosmetic products (6,000-160,000 ppb).

Fortunately, the UV light and hydrogen peroxide treatment process installed at Water Factory 21 for removal of NDMA also destroys 1,4-dioxane. OCWD has been commended by many for their proactive testing program and their public communication program. However, these two instances shed light on the issues that could potentially cause source water/wastewater contamination to become an impediment to future recycled water expansion. The cost of detection and treatment and the deleterious effects on public perception of recycled water are significant.

[Note: A discussion of OCWD activities in source control will be added.]

Recommendation

With the exception of regulation of water softeners, which are discussed in the following section, there appears to be sufficient legal authority to regulate the discharge of pollutants into sewers if they would affect recycled water quality, especially with respect to groundwater recharge.

The following recommendation is offered for consideration by the Task Force:

- Source water/wastewater quality as a significant potential impediment to the expansion of recycled water usage in California. While it can be resolved through technology and management, the costs both monetarily and to public perception of recycled water can be expensive. Local agencies promoting water recycling must be aware of the potential presence of chemicals in recycled water and the potential public perception of what might be in the water. Thus, they must ensure that there is a strong source control program in place to maintain public confidence in the safety of water recycling projects.

WATER SOFTENERS

Over the last few decades, increasing numbers of residents in California have installed water softeners in their homes to reduce problems caused by hard water. Unfortunately, the use of softeners, particularly onsite, self-regenerative water softeners, has led to increased salt in the water that is recycled from municipal wastewater. Any salt added to recycled water can push recycled water agencies into non-compliance with their water quality permits and make the recycled water unmarketable for irrigation use, currently the primary use throughout the state, and for some industrial uses. Restrictions on the use of water softeners by local agencies have been overturned in court suits. Legislative attempts have been made to strengthen local control over household water softeners to allow more restrictions, but little headway has been made against the resistance of water softener manufacturers. Background information is provided on water softeners, water quality problems, current law and a history of regulatory action in California, then an analysis of alternatives to address the problems and recommendations for consideration by the 2002 Recycled Water Task Force are presented.

Background

Function of Water Softeners

While not a health concern, water high in calcium/magnesium salts ("hard water") can result in the formation of spots on dishes or vehicles, scaling of pipe walls and plumbing fixtures, and slightly higher soap requirements for laundry and dish washing. These salts are present in potable water, primarily from natural sources but also from discharges of agricultural, industrial, and municipal discharges into rivers. Hard water is especially prevalent in coastal areas and areas where hard imported water is used, such as the service area of the Metropolitan Water District of Southern California, which distributes large amounts of Colorado River water. Since hardness is made up of salts, high hardness potable water is also high in salinity.

Many of the high hardness, high salinity portions of the state also happen to be areas with some of the highest population densities, where recycled water use is more likely to be expanded in the future. These areas are where the softener issue is most prominent. In areas where potable water is soft and/or low in salinity, the softener issue is less prominent.

In residential water softeners, water is passed over an exchange resin that allows hard water ions in the water to be "exchanged" with soft water ions from the resin. Thus, these are also referred to as "ion exchange" softeners. When the exchange capacity of the resin is depleted, it is "regenerated" by immersing it in a salty brine. The regeneration can either be performed by a service company by taking portable exchange tanks from the house to a central plant or by the homeowner on site, using self-regenerative softeners, by pouring heavy bags of salt pellets into the softener on a regular basis. Commercial, central regeneration plants discharge their brine waste into sewers. While these brines may still end up worsening the quality of recycled water, they can also be discharged to sewers that do not end up in downstream recycled water plants. The primary problem arises when the brine from many widely distributed residential self-regenerative softeners is discharged to the local wastewater collection system and downstream recycled water plants.

The chemistry of softeners involves replacing the calcium and magnesium salts in the potable water with sodium ions from the salt pellets. This adds both sodium and chloride, also a component of the salt pellets, to the water, and contributes to the overall total dissolved salts (TDS) in the water. Sodium, chloride, and TDS all have negative effects on plants. Instead of using common salt, which is composed of sodium and chloride as in table salt, to regenerate water softeners, potassium chloride salt is an option, though it is more expensive. People who need to reduce their sodium intake are motivated to use potassium salt. However, this option still contributes chloride and higher TDS to the wastewater and recycled water.

Water softeners vary in their efficiency, that is, the amount of salt needed to soften the water. The softener industry can proudly point out that softener regeneration technology has improved significantly in recent years due to increased efficiencies and more sophisticated regeneration controllers. In fact, as a result of legislation, mandatory

efficiency standards for softeners have been improved by 40 percent (from 2,850 to 4,000 grains of hardness removed per pound of salt added) since 1999. The theoretical maximum efficiency is 6,000 grains per pound, though this is not likely to be ever attained. Unfortunately, even at this theoretical maximum, the use of self-regenerative softeners would require owners on a regular basis to discharge heavy doses of salt brine into local wastewater that may be used for recycled water.

An alternative technology that is suggested for household use is reverse osmosis processes. Such a technology would not contribute any added salts to the wastewater. However, the engineering and economic aspects of these systems have yet to be determined.

Water Quality Problems

As noted above, home self-regenerative water softeners contribute sodium, chloride, and TDS to wastewater and, thus, to recycled water. This makes recycled water less desirable for reuse for irrigation. Sodium reduces soil moisture penetration, TDS reduces crop yields, and chloride is toxic to plants. In many cases the potable water is already high in TDS, and water softeners compound the problem for recycled water, creating difficulties in being able to find customers for the recycled water.

The softeners also cause problems for wastewater discharge. Chlorides in some watersheds (e.g., Santa Paula and Santa Clarita Rivers in XX County), are a critical issue, and there has been pressure from Regional Water Quality Control Boards to restrict the use of softeners to improve the quality of wastewater discharges.

A major issue is whether water softeners are a significant contributor to the water quality problem. Other sources of salinity are food processing, residential chemicals, commercial and industrial discharges, and brackish groundwater infiltration into sewers. The added contribution attributed to water softeners is not well documented, though some studies have been done. Around-the-clock measurements by Irvine Ranch Water District (IRWD) in Orange County showed large spikes (from 800 to several thousand mg/liter TDS) in salinity levels in residential sewers tributary to its water recycling plant in the early morning hours when regeneration is typically scheduled by owners. *[Note: There apparently is a Los Angeles County Sanitation District study we will try to obtain information on.]*

There is a study underway to investigate the significance of water softeners in water quality problems. American Water Works Association Research Foundation (AWWARF) is conducting an extensive study to more closely evaluate the contribution of various sources of salinity to municipal wastewater. Irvine Ranch Water District, the Water Quality Association (WQA—the softener manufacturers' trade association), and others are participants. This study is scheduled for completion in 2003.

Regulation of Water Softeners

Existing state statutes governing residential water softeners are contained in the Health and Safety Code, Sections 116775 through 116795, which reflect the most recent legislation on this issue, Senate Bill 1006 (Costa), enacted in 1999. The full text can be found in Appendix D. The provisions are summarized as follows:

1. Effective immediately, any newly installed residential self-regenerative water softener must have its regeneration activated by a demand control device that detects imminent exhaustion of the softening material (salt).
2. Effective January 1, 2000, water softeners had to be certified by a third party to have a salt efficiency rating of 3,350 grains of hardness removed per pound of salt used. The previous code required efficiency of 2,850.
3. Effective January 1, 2002, the efficiency requirement increased to 4,000.
4. Local agencies may regulate water softeners by ordinance only if they are violating waste discharge requirements or a water reclamation permit issued by the Regional Water Quality Control Board.
5. Before an agency can enact an ordinance regulating water softeners, it must conduct an independent study that shows such regulation is the "only available means" of bringing the agency back into compliance.
6. In the study, other means of compliance must be measured as to their relative economic and technological feasibility, as compared to regulation.

7. Other non-residential sources of salt must be regulated, to the extent technologically and economically feasible, before a residential ordinance can be enacted.
8. Any ordinance adopted can only apply prospectively; existing water softeners are "grandfathered in."
9. No ordinance may be adopted until January 1, 2003.

In the 1970s, technical standards for self-regenerative softeners were added to the State Health and Safety Code. A 1978 state law prohibited local bans on residential water softeners. Nevertheless, several local jurisdictions banned them. In 1966, IRWD was one of the first recycled water producers to adopt a ban of self-regenerative water softeners within residential areas tributary to its recycled water plant. Other local agencies followed suit in the years that followed. WQA challenged local softener bans in court. Domestic water softener bans adopted in Escondido, Santa Maria, and the County of Santa Barbara were overturned by lawsuit filed in 1992. In 1997, the California Fourth District Court of Appeals upheld lower court rulings in *Water Quality Association vs City of Escondido* that local ordinances, like that of IRWD, are invalid. They ruled that they are invalid not because self-regenerative softeners do not adversely impact recycled water, but because there are already state statutes in place that preempt local softener standards/regulations. Therefore, the court ruled that if local agencies desire to further restrict on-site residential water softeners, they must seek amendment or repeal of existing state statutes.

In response, in 1999, IRWD and the Association of California Water Agencies (ACWA) sponsored legislation to improve self-regenerative softener efficiency standards and set a framework for the restriction of self-regenerative softeners under certain conditions. The provisions of that bill, SB 1006 (Costa), are described above.

These provisions were negotiated among the sponsors and self-regenerative softener industry representatives. The softener industry withdrew its initial opposition to the bill upon completion of the negotiation. Unfortunately, as with many negotiated settlements, neither party seems to be content with the outcome.

Some studies of salinity contributions to recycled water are underway, as required by SB 1006, prior to adoption of self-regenerative softener ordinances. However, recycled water producers are concerned that the negotiated provisions of SB 1006 set the bar too high for consideration of needed softener restrictions. They contend that regardless of how large or small the softener contribution is, the use of self-regenerative softeners by a relatively small portion of residents (5 to 20 percent of hard water areas dominated by middle to high income households) should not be allowed to cause recycled water to become expensive or unmarketable to the detriment of the community at large. As with any pollution issue, it makes more sense to control its introduction at the source rather than incurring greater expense in removing it downstream.

There are also news reports from 2001 of possibly another study funded by ten major residential water treatment equipment manufacturers to determine how much water softeners contribute to brine discharge from the average home. There is also a report that a study is planned by National Water Research Institute and Municipal Water District of Orange County *[this needs to be verified]*.

The self-regenerative softener industry argues that the provisions of SB 1006 are vital to ensure that local agencies do not arbitrarily adopt ordinances that take away the livelihood of many small business owners.

The RWQCBs have investigated bans on water softener bans to achieve chloride goals in receiving waters. *[Note: We will try to obtain more information on the outcomes of this for inclusion here.]*

Analysis

There are several options to address the problem caused by water softeners:

1. Promote new technology for residential water softeners, such as reverse osmosis. This could be done through research or a new attempt at legislation to give more local authority to ban self-regenerative softeners, which would stimulate industry to speed up this technology.
2. Promote more use of service companies to regenerate softeners at centralized nonresidential facilities, where higher salt efficiencies and better control of brine flows treatment and disposal are possible.
3. Soften the entire potable water supply at water treatment plants, has been done is some areas, using different processes that do not generate chlorides.

4. Demineralize recycled water through reverse osmosis to reduce TDS and its components, including sodium and chloride.
5. If sodium is the critical element, restrict softeners to using potassium-based salts or promote financial incentives to convert to this.
6. Initiate a new attempt to amend the Health and Safety Code to allow local bans on self-regenerative softeners based on less stringent criteria.

As is noted in the section of this white paper on source control, there exists the legal authority to impose source control on any pollutants discharged into sewer systems with the exception of self-regenerative residential water softeners. Recycled water producers contend that while it is reasonable to require that agencies weigh the relative contributions of salts from various sources, they should be able to impose restrictions on those sources that are most cost-effective and administratively feasible to reduce. They should not have to demonstrate that a softener ban is the only available means of achieving its goal. In addition, Regional Water Quality Control Board permits specify water quality limitations primarily to protect public health and the environment, not to make recycled water suitable for potential markets. The current requirement that a ban is possible only when necessary for RWQCB compliance is unreasonable. They also contend that that it is not appropriate to have statewide standards when water and recycled water quality varies greatly from location to location within the state. The standards were developed to protect water and wastewater quality, not protect consumers from fraud or product quality deficiencies. Thus, local agencies should be given more discretion to regulate softeners to protect local recycled water supplies and wastewater discharges.

On the other hand, the self-regenerative softener industry argues that recycled water producers have overstated the overall contribution of salinity to local wastewater streams. They stress that other contributions, like salty, hard imported potable water, is the most significant source of salinity. As noted above, other sources include industrial, commercial, and even residential activities and brackish groundwater infiltration into sewers. Thus, self-regenerative softeners should not be singled out as the only cause for excessive salinity levels in recycled water. The industry argues that manufacturers have already made great strides in doing their part through technology improvements and customer education. They contend that recycled water producers should attempt to reduce other sources of salinity before considering any further regulation of self-regenerative softeners. The industry has also made the point that small businesses are involved in the sale of self-regenerative softeners and would be harmed by bans.

A factor to consider in evaluating water softeners is their relatively long useful life, which is 10 to 15 years. Many of the softeners in place do not meet current standards for new appliances. Incentives may be appropriate to replace them.

Recommendations

The following recommendations provide a variety of possibilities to encourage water recycling and remove obstacles and impediments to that goal:

1. Local agencies should be empowered to regulate the discharge of residential water softeners in the same manner as other sources of discharge into sewers. Legislation should be proposed to amend the Health and Safety Code Sections 116775 through 116795 to reduce the restrictions on the local ability to impose bans on or more stringent standards for residential water softeners.
2. On-going or proposed studies on water softeners and their contribution to salinity problems should be reviewed to determine if there would still be outstanding issues worth additional studies. Funding should be sought for such studies.
3. Within the current legal restrictions, local agencies should consider publicity campaigns to educate consumers regarding the impacts of self-regenerative water softeners and promote the use of off-site regeneration by service companies. They should also consider financial incentives to upgrade older inefficient appliances to the current standards.

PERMITTING PROCEDURES

[Note: The Permitting Procedures section needs further editing.]

As a minimum, each reclaimed water distribution system must have at least one permit from a Regional Board. The permit must incorporate statewide standards adopted by DHS and may include other recommendations by DHS protective of public health. All new projects or additions are required to submit engineering reports for DHS review. Some agencies have found the procedures of DHS and the Regional Boards to be lengthy and cumbersome. There may be opportunities to streamline these procedures. Aspects of this issue that have been suggested for consideration are 1) investigation of the timing of permits vis-à-vis the CEQA process, 2) the permitting of seasonal storage, and 3) the development of a one-stop approach to permitting.

Background

There are a number of permitting related disincentives that currently exist within the regulatory framework for recycled water. As a minimum, each recycled water distribution system must have at least one permit from a Regional Board. The permit must incorporate statewide standards adopted by DHS and may include other recommendations by DHS protective of public health. Most of these standards require more extensive effort by the end user than would be required if potable water were used. Inspections, training, reports, additional liability are all hidden impediments to the use of recycled water. In addition, all new projects or additions are required to submit engineering reports for DHS review. Some agencies have found the procedures of the Regional Boards, DHS and local health agency to be slow, confusing and applied inconsistently.

Existing Laws and Regulations

Existing statutes applicable to the permitting of recycled water projects are generally contained in the Public Utilities Code, Health and Safety Code, the Water Code, Title 22 and Title 17 of the California Code of Regulations. They have been discussed in the other sections of this white paper and many are shown in Appendixes C, D and E.

Specific requirements related to timeliness of review of permit application exist within the Water Code, Section 13554.2. This section primarily addresses requirements for reimbursing the Department of Health Services or local health agency for their review of a recycled water project plans. The Section includes a requirement that the DHS or local health agency be responsive first, by notifying the applicant that its proposal is complete for the purposes of review within 30 days, and second, by completing its review of the project plans within 30 days of confirming the receipt of a complete proposal.

Section 13554.2 of the California Water Code:

> *(e) The State Department of Health Services or local health agency shall complete its review of a proposed use of recycled water within a reasonable period of time. That department shall submit to the person or entity proposing the use of recycled water a written determination as to whether the proposal submitted is complete for purposes of review within 30 days from the date of receipt of the proposal and shall approve or disapprove the proposed use within 30 days from the date on which that department determines that the proposal is complete.*

Another area of regulation that has been a specific impediment to recycled water projects relates to the permit authority of local land use and building officials. Water and wastewater agencies are subject to local building and zoning ordinances, however there are specific exemptions. The first exemption is contained in Government Code sections 53091 which provides an exemption for "facilities for the production, generation, storage and transmission of water. The second exemption is carefully conditioned. It is contained in Government Code section 53096 and says that a recycled water project is exempt from local agency approval if the facility is "related to storage or transmission of water". Unless exempted, water and wastewater agencies must abide by local planning and building department decisions.

Previous Work Related to this Issue

A review of past work in this area indicates that permitting procedures were identified as an impediment to recycling in the report, "Water Recycling 2000, California's plan for the future" prepared by the State Water Conservation Coalition Reclamation/Re-Use Task Force and Bay Delta Reclamation Sub-Work Group, dated September 1991.

This report cites that regulatory approval of recycling projects can entail numerous interactions with regulatory agencies prior to project approval. The report recommends that regulatory agencies should strive for timely and consistent reviews. Inadequate staffing within the Federal, State and local agencies responsible for permitting was identified as the primary reason for delays and confusion. This continues to be an area where improvement is needed. Following is a complete review of the recommendations and the progress that has been made in this area since the report was issued:

Recommendation	What's Been Done
State and Regional Boards should work concurrently in the development of basin plans and granting of permits	Limited progress
Streamline the SRF loan application review and approval process	SWRCB reviewed funding procedures in 1994 and 1997 and revised guidelines. The program was reviewed by an External Program Review Task Force in 1994. WateReuse Association and SWRCB staff held a series of discussions in 1999-2000.
Regional Boards should develop methods to reduce the lengthy process of permit issuance	The Regional Boards have developed methods for improved permitting efficiency although the practices are not uniform throughout the State.
Increase staff at DHS and provide training so that reviews are timely and consistent	Added provisions in the water Code for timely review of applications which provided justification for additional staff
Develop policy guidelines for DHS staff to use in their review of project plans	DHS published "California Health Laws Related to Recycled Water - The Purple Book", 1st Edition January 1, 1998; current edition June 2001
DHS to develop guidelines for local health agencies to use so that state regulations are applied uniformly	DHS published "California Health Laws Related to Recycled Water - The Purple Book", 1st Edition January 1, 1998 and updates published regularly
Local health agencies should dedicate sufficient trained staff to oversee recycled water projects	Local agency support has generally improved with greater awareness and use of recycled water

Site-Specific Examples

Even though many of the recommendations made ten years ago in this area have been acted upon, there is still much work that can be done to improve the permitting process. The significance of this issue was exhibited during the initial session of the task force when a large number of task force members indicated that they would like to see the approval process for recycled water project permits "streamlined". WateReuse and its members provided the site-specific examples noted below:

- A County Planning Department took 6 months to review plans for a recycled water storage tank. The total cost of the permit was $1,500. The time taken to review the project and issue a permit was excessive and it was questionable whether a permit was even required. The Planning Department took the position that recycled water was considered wastewater and therefore would require a permit. The applicant felt that since the tank was for the purpose of storing recycled water, the project should not be subject to a plan review by the local land use authority.
- A Southern California wastewater reclamation authority petitioned the State Water Resources Control Board for a permit to deliver recycled water to landscaped areas on a nearby golf course and airport. Two

years passed before public hearings were conducted by the SWRCB. After hearings were conducted, the reclamation authority's request was denied due to water rights issues.

- The task of coordinating among the parties affected by a recycled water project was cited as onerous and time consuming. Each local agency and private business must be consulted and individual requirements must be addressed. The parties involved in a recycled water project may include the wholesale and/or retail water purveyor, the city and/or county planning department, the city and/or county building department, and the individual customers. Although not a permitting issue per se, consultation with each party is part of the process of getting the recycled water project built. Clear communication and a consistent message about the benefits of recycled water would go a long way to making the coordination as efficient as possible.
- The inefficiencies of project approval can also relate to changes in regulation. For example, if new regulations are enacted midway through a project, regulators have required that projects be revised to conform to the new regulations. This can be costly and results in project delay.
- The Engineering Report is a regulatory requirement prior to producing or supplying recycled water. Agencies have been required to prepare an Engineering Report for new sites involving any non-common area irrigation use (e.g. single family lot irrigation, toilets, cooling towers, car washes, etc.). These are repetitive and costly and especially burdensome for agencies with extensive dual piped distribution systems with existing accounts of a similar nature.

It would not be prudent to accept the status quo. The permitting process as it stands today has impeded projects and there is room for improvement. Industry professionals should demand greater efficiency in the permitting process and there is no reason those demands can't be met.

Recommendations

The permitting process is a series of tasks that must be accomplished in order to complete a project. There is no suggestion that the individual tasks should be avoided; each step in the process is accepted as necessary to protect health and safety and ensure adequate public review. The opportunity exists however, to make the process more efficient. Here are some specific recommendations for consideration:

1. DHS should continue to maintain and update its "California Health Laws Related to Recycled Water - The Purple Book", which is an excellent resource for the permit requirements related to recycled water projects.
2. ACWA and CASA should clarify for its members; under what circumstances water and wastewater agencies must seek permits from local land use and building authorities for recycled water projects.
3. DHS should clarify the requirements for engineering reports to cover multiple sites of similar use.
4. State and local tax incentives should be provided to recycled water users to help offset the permitting and reporting costs associated with the use of recycled water.
5. The RWQCBs should be more proactive during the planning of recycled water projects so issues can be addressed before design commences.
6. Each RWQCB should have a resident expert on water recycling to provide consistency in permitting and coordinate with other RWQCBs in maintaining consistency.
7. Each RWQCB should have an ombudsman to assist in facilitating permitting and conflict resolution.
8. The SWRCB should provide oversight over RWQCBs to maintain consistency in water recycling regulation and permitting.
9. Continued from 1990:
    - State and Regional Boards should work concurrently in the development of basin plans and granting of permits

JURISDICTIONAL CONFLICTS

The use of recycled water often involves two or more agencies to treat and distribute the recycled water to a customer. All parties must be in agreement or have an established legal relationship before a project can be successfully implemented. Jurisdictional conflicts or uncooperative relationships have been cited as an obstacle to water recycling. Because there is in statutes a conflict resolution procedure that is not well known and has not been tested, it was agreed to address this issue by providing background information on the relevant laws for inclusion in the Task Force report without further recommendations.

Background

There are thousands of water and wastewater agencies in California, many with overlapping jurisdictions. Inevitably there are jurisdictional issues that must be negotiated and resolved for a recycled water project to be successfully implemented. Resolving the issues can be difficult and involve significant differences. Provisions of the Public Utilities Code (Section 1501-1507) and Health and Safety Code (Section 6512(c)) govern the water service by one entity in the service area of another, mainly to protect the financial interests of the primary water supplier. A cooperative relationship is essential for a water reuse project to be successful. Because there may be situations where a recycled water supplier, a potential recycled water user, and a potable water supplier cannot readily come to agreement on the delivery of recycled water, Water Code Sections 13580-13583 were enacted in 1999 to provide a procedure to resolve disputes, including provision of formal mediation.

State Law

- The Legislature has found, pursuant to Water Code Section 13550 et seq. that the use of potable domestic water when recycled water is available for nondomestic uses is a waste or an unreasonable use of the water.
- The California Constitution (Section 2, Article X) requires that all waters of the state be put to reasonable and beneficial use.
- The Legislature has also provided for an orderly allocation of water service areas pursuant to Public Utilities Code Section 1501 et seq., the Service Duplication Act. It provides that when a local public agency, such as a county or city water supplier or water district, provides or extends water service to any service area of a privately owned public utility with the same type of service, such an act constitutes a taking by the local agency and requires compensation to the privately owned public utility for damages it may suffer.
- Water Code Section13580 et seq. and amendments to Section 13575 et seq. established procedures for a water customer to request recycled water service, for establishing the rate for the recycled water served, for resolving disputes between the customer and his or her retail water supplier relating to the supply of the recycled water service, and for enforcing those procedures. Specifically, the law:

    1. Authorizes a customer of a retail water supplier to request in writing that a retail water supplier enter into an agreement to provide recycled water.
    2. Prohibits a customer of a retail water supplier from obtaining recycled water from a recycled water wholesaler or another retail water supplier without the agreement of their retail water suppliers.
    3. If either a recycled water producer or wholesaler provides a written statement that it can and will provide recycled water to the retailer, the retail water supplier shall, not later than 120 days from the date on which the supplier receives the written statement from the customer, submit a written offer to the customer.
    4. Authorizes a person responsible for groundwater replenishment that is not a customer of a retail water supplier to request in writing a retail water supplier, recycled water producer or recycled water wholesaler enter into an agreement to provide recycled water.
    5. Authorizes a retail water supplier, who has a written agreement, to delegate to a recycled water producer or recycled water wholesaler its responsibility to provide recycled water.
    6. Creates a pricing process for the purchase and sale of recycled or nonpotable water, depending upon whether the retail water supplier is a pubic agency or is regulated by the Public Utilities

Commission. If the retail supplier is a public agency, the rate for recycled water shall be comparable to, or less than, the retail supplier's rate for potable water. If the retail supplier cannot provide such a rate, the retail supplier is not required to provide the recycled water service unless the customer agrees to pay a higher rate. If the retail supplier is regulated by the Public Utilities Commission, the retail supplier may request the Commission to establish the rate with the objective of providing, where practicable, a reasonable economic incentive for the customer to purchase recycled or nonpotable water.

7. If there is a failure to agree on the terms and conditions of a recycled water supply agreement involving a retail water supplier that is a public agency, any party may request a formal mediation process. A timeline is provided for the mediation. The cost for mediation shall not exceed $20,000 and shall be divided equally between the parties. If the parties in mediation reach agreement, both parties shall draft the contract for the recycled water service and shall sign the contract within 30 days of the conclusion of mediation.

- State law, under the Service Duplication Act, required sanitary districts to obtain the consent of the city, water district or other local agency prior to supplying recycled water service to that territory. Section 6512 of the Health and Safety Code and Section 10633 of the Water Code were amended in the 2002 legislative session to enable sanitary districts to compete with water districts to serve industrial, institutional and commercial customers. These sections were amended to do the following:

    1. Authorize sanitary districts to supply recycled water service, contingent on specified notification and the offer to consult with cities, local agencies, or water districts that provide water service within the service area of that sanitary district. The obligation to consult terminates if the local public water supply retailer fails to make itself available for consultation within 60 days of written notification
    2. Require urban water suppliers to include in their Urban Water Management Plans (UWMP) the following additional information to coordinate the activities of local water, wastewater, groundwater and planning agencies that operate within the supplier's service area: a) a description of the quantity of discharged treated wastewater that meets recycled water standards and is available for a recycled water project, b) a description of the actual use of recycled water compared to previously projected use, and 3) a plan for facilitating the increased use of treated wastewater that meets recycled water standards, as well as actions to address obstacles to increasing the use of recycled water.

[Note: The cited sections of statutes will be inserted in Appendix D.]

Appendix A

LIST OF MEMBERS OF THE REGULATIONS AND PERMITTING WORKGROUP

Name	***Affiliation***
Chair:	
Kathy Fletcher	California Environmental Protection Agency
Co-chair:	
Jerry Brown	Contra Costa Water District
Members:	
Rich Atwater	Inland Empire Utilities Agency
Kirk Bone	Serrano Associates LLC
Bob Castle	Marin Municipal Water District
Gary Erbeck	Department of Environmental Health
Virginia Grebbien	Orange County Water District
Rex Hime	California Business Properties Association
Fawzi Karajeh	Department of Water Resources
Cindy Megerdigian	El Dorado Irrigation District
Darryl Miller	Central and West Basin MWD
Rich Mills	State Water Resources Control Board
John Morris	Morris Water Resources Consultants
Art O'Brien	City of Roseville
Rod Spackman	Chevron Products Company
Jeff Stone	Department of Health Services
John Withers	Santa Ana Regional Water Quality Control Board

Appendix B

LIST OF ISSUES PROPOSED FOR CONSIDERATION RELATED TO REGULATIONS AND PERMITTING ISSUES

1. State law regarding land use and permitting treats recycled water facilities as wastewater facilities [4]
2. Discharge of recycled water to a pond requires enough freeboard to account for a 100-year storm [4], [14]
3. One molecule rule considers that any discharge of rainfall-induced stormwater or incidental runoff that could contain "one molecule" of recycled water is an illegal point discharge of wastewater that requires a point-discharge NPDES permit [14], [16].
4. Address the issue of laws governing duplication of service in dual distribution systems [10], [17]
5. Consider neutral third party mediators to facilitate multiparty agreements between competing recycled water purveyors [16], [17]
6. Review of overlapping laws and regulations relevant to wholesaling and retailing of recycled water
7. Recycled water spill is considered as sewage spill [7], [8], [10], [17]
8. Include in the Water Code a clear classification for types of water and appropriate uses for each [10]
9. Clean Water Act considers that wetlands (even man made ones) are waters of the state with very strict effluent limitations making it difficult to implement reuse projects for wetland restoration [12]
10. Non-uniformity of water recycling standards statewide [10]
11. Legislation should be enacted to forbid local agencies from restricting recycled water projects in any manner that goes beyond the requirements of state law and regulations [16], [17]
12. Current water recycling criteria impose in addition to water quality certain treatment technologies and plant designs making it restrictive on use of innovative technologies [16]
13. Clarify and strengthen language in State Water Code that gives agencies more authority to impose penalties on entities that do not use recycled water [13]
14. Clarify the definition of impairment contained in California Law. Water Code Section 13540 requires DHS to determine that injection projects will not impair receiving aquifers used as drinking water supply [16].
15. The use of Action Levels as compliance mechanisms. Even though Action Levels are health-based advisory levels established by DHS for chemicals in drinking water that lack maximum contaminant levels, they have become defacto regulations and significant barriers to potable water reuse projects [16]
16. Recycled water producers may be liable for users' violations [10]
17. Regulate water softeners locally to protect recycled water for reuse [17]
18. Use of recycled water for industry should be enforced [17]
19. Residential use of recycled water for landscaping [7]
20. Investigate if the ability to charge for regulatory oversight and inspections provides a financial inducement to create regulations that have lost sight of reasonable balance between risk management and costs [16]
21. Insufficient coordination among various recycled water regulators. Each regulatory body works independently from the others [10], [12]
22. Centralize reviews and approvals in "one stop" approach [10]
23. Need for a statewide coordinated program [10], [12]
24. Costly repetitive Engineering reports needed for each site [10]
25. Costs related to dewatering and discharge. Must dewater to sewer, can't dewater to creeks [10]
26. Costs related to cross-connection program [10]
27. Costs related to spill reporting [10]
28. Drought waver for discharge limits (no dilution) so as not to undermine the drought proof aspect of recycled water [1]
29. Regional brine lines for discharging highly concentrated brines [1]
30. Coordinate with AB885 on-site wastewater treatment [2]
31. Prohibition against on-site water recycling should be deleted [16]
32. Satellite wastewater treatment plants technology for intercepting part of wastewater and treat it upstream where recycling is most needed [2], [7]
33. Incidental recharge of groundwater
34. Incidental runoff occurring from using recycled water for beneficial use can be in violation of NPDES permits [12]
35. Include professionals knowledgeable in the domain to assist in the development of regulations [16].

APPENDIX C
FEDERAL STATUTES AND REGULATIONS

Clean Water Act

Section 301. Effluent Limitations

(a) Except as in compliance with this section and sections 302, 306, 307, 318, 402, and 404 of this Act, the discharge of any pollutant by any person shall be unlawful.

(e) Effluent limitations established pursuant to this section or section 302 of this Act shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this Act.

Section 402. National Pollution Discharge Elimination System

(b) At any time after the promulgation of the guidelines required by subsection (h)(2) of section 304 of this Act, the Governor of each State desiring to administer its own permit program for discharges into navigable waters within its jurisdiction may submit to the Administrator a full and complete description of the program it proposes to establish and administer under State law or under an interstate compact. In addition, such State shall submit a statement from the Attorney General (or the attorney for those State water pollution control agencies which have independent legal counsel), or from the chief legal officer in the case of an interstate agency, that the laws of such State, or the interstate compact, as the case may be, provide adequate authority to carry out the described program. The Administrator shall approve each such submitted program unless he determines that adequate authority does not exist:…

(e) In accordance with guidelines promulgated pursuant to subsection (h)(2) of section 304 of this Act, the Administrator is authorized to waive the requirements of subsection (d) of this section at the time he approves a program pursuant to subsection (b) of this section for any category (including any class, type, or size within such category) of point sources within the State submitting such program.

(f) The Administrator shall promulgate regulations establishing categories of point sources which he determines shall not be subject to the requirements of subsection (d) of this section in any State with a program approved pursuant to subsection (b) of this section. The Administrator may distinguish among classes, types, and sizes within any category of point sources.

Section 502. General Definitions

(12) The term "discharge of a pollutant" and the term "discharge of pollutants" each means (A) and addition of any pollutant to navigable waters from any point source, (B) any addition to any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.

(14) The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

(19) The term "pollution" means the man-made or man induced alteration of the chemical, physical, biological, and radiological integrity of the water.

Code of Federal Regulations

Following are NPDES regulations that define several types of discharges that would require a NPDES permit. While this list of regulations is considered accurate, it is by no means complete. Please consult the Code of Federal Regulations for a complete listing of NPDES regulations.

Code of Federal Regulations, Title 40

§ 122.1 Purpose and scope.

(b) *Scope of the NPDES permit requirement.* (1) The NPDES program requires permits for the discharge of "pollutants" from any "point source" into "waters of the United States." The terms "pollutant", "point source" and "waters of the United States" are defined at § 122.2.

§ 122.2 Definitions.

Discharge of a pollutant means:

(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or

(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. (See § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Note: Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes. See *Train* v. *Colorado Public Interest Research Group, Inc.,* 426 U.S. 1 (1976).

Toxic pollutant means any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA.

Waters of the United States or *waters of the U.S.* means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) All interstate waters, including interstate "wetlands;"

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.] Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

§ 122.3 Exclusions.

(e) Any introduction of pollutants from non point-source agricultural and silvicultural activities, including storm water runoff from orchards, cultivated crops, pastures, range lands, and forest lands, but not discharges from concentrated animal feeding operations as defined in § 122.23, discharges from concentrated aquatic animal production facilities as defined in § 122.24, discharges to aquaculture projects as defined in § 122.25, and discharges from silvicultural point sources as defined in § 122.27.

(f) Return flows from irrigated agriculture.

(g) Discharges into a privately owned treatment works, except as the Director may otherwise require under § 122.44(m).

APPENDIX D
CALIFORNIA STATE STATUTES

Health and Safety Code

17910. This part is known as the "State Housing Law."

. . . .

17958.**7**. (a) Except as provided in Section 17922.6, the governing body of a city or county, before making any modifications or changes pursuant to Section **17958**.5, shall make an express finding that such modifications or changes are reasonably necessary because of local climatic, geological or topographical conditions. Such a finding shall be available as a public record. A copy of those findings, together with the modification or change expressly marked and identified to which each finding refers, shall be filed with the California Building Standards Commission. No modification or change shall become effective or operative for any purpose until the finding and the modification or change have been filed with the California Building Standards Commission.

(b) The California Building Standards Commission may reject a modification or change filed by the governing body of a city or county if no finding was submitted.

17958.8. Local ordinances or regulations governing alterations and repair of existing buildings shall permit the replacement, retention, and extension of original materials and the use of original methods of construction as long as the hotel, lodginghouse, motel, apartment house, or dwelling, or portions thereof, or building and structure accessory thereto, complies with the provisions published in the California Building Standards **Code** and the other rules and regulations of the department or alternative local standards adopted pursuant to Section 13143.2 and does not become or continue to be a substandard building.

17958.9. Local ordinances or regulations governing the moving of apartment houses and dwellings shall, after July 1, 1978, permit the retention of existing materials and methods of construction so long as the apartment house or dwelling complies with the building standards for foundation applicable to new construction, and does not become or continue to be a substandard building.

17958.11. (a) Any city or county may adopt alternative building regulations for the conversion of commercial or industrial buildings, or portions thereof, to joint living and work quarters. As used in this section, "joint living and work quarters" means residential occupancy by a family maintaining a common household, or by not more than four unrelated persons, of one or more rooms or floors in a building originally designed for industrial or commercial occupancy which include (1) cooking space and sanitary facilities in conformance with local building standards adopted pursuant to Section **17958** or **17958**.5 and (2) adequate working space reserved for, and regularly used by, one or more persons residing therein. The alternative building regulations adopted pursuant to this section shall be applicable in those geographic areas specifically designated for such occupancy, or as expressly permitted by a redevelopment plan with respect to a redevelopment project area. The alternative building regulations need not impose the same requirements as regulations adopted pursuant to Section 17922, except as otherwise provided in this section, but in permitting repairs, alterations, and additions necessary to accommodate joint living and work quarters, the alternative building regulations shall impose such requirements as will, in the determination of the local governing body, protect the public health, **safety**, and welfare.

(b) The Legislature hereby finds and declares that a substantial number of manufacturing and commercial buildings in urban areas have lost manufacturing and commercial tenants to more modern manufacturing and commercial premises, and that the untenanted portions of such buildings constitute a potential resource capable,

when appropriately altered, of accommodating joint living and work quarters which would be physically and economically suitable particularly for use by artists, artisans, and similarly-situated individuals. The Legislature further finds that the public will benefit by making such buildings available for joint living and work quarters for artists, artisans, and similarly-situated individuals because (1) conversion of space to joint living and work quarters provides a new use for such buildings contributing to the revitalization of central city areas, (2) such conversion results in building improvements and rehabilitation, and (3) the cultural life of cities and of the state as a whole is enhanced by the residence in such cities of large numbers of persons regularly engaged in the arts.

(c) The Legislature further finds and declares that (1) persons regularly engaged in the arts require larger amounts of space for the pursuit of their artistic endeavors and for the storage of materials therefor, and of the products thereof, than are regularly found in dwellings, (2) the financial remunerations to be obtained from a career in the arts are generally small, (3) persons regularly engaged in the arts generally find it financially difficult to maintain quarters for their artistic endeavors separate and apart from their places of residence, (4) high property values and resulting rental costs make it particularly difficult for persons regularly engaged in the arts to obtain the use of the amount of space required for their work, and (5) the residential use of such space is accessory to the primary use of such space as a place of work.

It is the intent of the Legislature that local governments have discretion to define geographic areas which may be utilized for joint living and work quarters and to establish standards for such occupancy, consistent with the needs and conditions peculiar to the local environment. The Legislature recognizes that building **code** regulations applicable to residential housing may have to be relaxed to provide joint living and work quarters in buildings previously used for commercial or industrial purposes.

17959.1. No local ordinance enacted pursuant to this chapter shall have the effect of prohibiting or of unreasonably restricting the use of solar energy systems, other than for the preservation of the public health and **safety**. The provisions of this section shall apply to charter cities.

This section shall not apply to ordinances which impose reasonable restrictions on solar energy systems. However, it is the policy of the state to promote and encourage the use of solar energy systems and to remove obstacles thereto. Accordingly, reasonable restrictions on a solar energy system are those restrictions which do not significantly increase the cost of the system or significantly decrease its efficiency, or which allow for an alternative system of comparable cost and efficiency.

As used in this section, "solar energy system" shall be defined as set forth in Section 801.5 of the Civil **Code**.

17959.3. (a) It is the intent of the Legislature to encourage the use of passive solar energy design. The Legislature recognizes that building **code** regulations with regard to natural light and ventilation standards have to be modified to permit existing buildings to be retrofitted with passive solar energy.

(b) Notwithstanding Section 17922, any city or county may by ordinance or regulation permit windows required for light and ventilation of habitable rooms in dwellings to open into areas provided with natural light and ventilation which are designed and built to act as passive solar energy collectors.

(c) On or before September 1, 1999, the department shall, after consulting with the State Energy Resources Conservation and Development Commission, prepare, adopt, and submit building standards to implement the provisions of this section for approval as part of the California Building Standards **Code** pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5.

- 116800 - *Local health officers may maintain programs for the control of cross connections by water users, within the water users premises, where public exposure to drinking water contaminated by backflow may occur. The programs may include inspections within water users premises for the purpose of identifying cross-connection hazards and determining appropriate backflow protection. Water users shall comply with all orders, instructions, regulations, and notices from the local health officer with respect to the installation, testing, and maintenance of backflow prevention devices. The local health officer may collect fees from those water users subject to inspection to offset the costs of implementing cross-connection control programs.*

- 116805(a) - *Local health officers may maintain programs, in cooperation with water suppliers, to protect against backflow through service connections into the public water supply, and, with the consent of the water supplier, may collect fees from the water supplier to offset the costs of implementing these programs.*
- 116805(b) - *The fees authorized under this section and under Section 116800 shall be limited to the costs of administering these programs. At the discretion of the water supplier, the fees collected from the water supplier by the local health officer may be passed through to water users. (c) Programs authorized under this section and Section 116800 shall be conducted in accordance with backflow protection regulations adopted by the department. (d) Nothing in this article shall prevent a water supplier from directly charging those water users required to install backflow prevention devices for the costs of the programs authorized in this section and Section 116800.*

116775. The Legislature hereby finds and declares that the utilization of the waters of the state by residential consumers for general domestic purposes, including drinking, cleaning, washing, and personal grooming and sanitation of the people is a right that should be interfered with only when necessary for specified health and **safety** purposes or to protect the quality of the waters of the state. The Legislature further finds that variation in water quality, and particularly in water hardness, throughout the state often requires that onsite water softening or conditioning be available to domestic consumers to ensure their right to a water supply that is effective and functional for domestic requirements of the residential household, but that residential water softening or conditioning appliances shall be available only as authorized in this article.

116780. (a) Unless the context otherwise requires the definitions in this section govern the construction of this article.

(b) "Clock control" means the system controlling the periodic automatic regeneration of a residential water softening or conditioning appliance that is based upon a predetermined and preset time schedule.

(c) "Demand control" means the system controlling the periodic automatic regeneration of a residential water softening or conditioning appliance that is based either upon a sensor that detects imminent exhaustion of the active softening or conditioning material or upon the measurement of the volume of water passing through the appliance. A demand control system activates regeneration based upon the state of the equipment and its ability to continue the softening process.

(d) "Fully manual regeneration" means the method of regeneration of a residential water softening or conditioning appliance in which operations are performed manually and in which dry salt is added directly to the ion-exchanger tank after sufficient water is removed to make room for the salt.

(e) "Hardness" means the total of all dissolved calcium, magnesium, iron and other heavy metal salts, that interact with soaps and detergents in a manner that the efficiency of soaps and detergents for cleansing purposes is impaired. Hardness is expressed in grains per gallon or milligrams per liter as if all such salts were present as calcium carbonate.

(f) "Local agency" means a city, county, city and county, district, or any other political subdivision of the state.

(g) "Manually initiated control" means the system controlling the periodic regeneration of a residential water softening or conditioning appliance in which all operations, including bypass of hard water and return to service, are performed automatically after manual initiation.

(h) "Regeneration" means the phase of operation of a water softening or conditioning appliance whereby the capability of the appliance to remove hardness from water is renewed by the application of a brine solution of sodium or potassium chloride salt to the active softening or conditioning material contained therein followed by a subsequent rinsing of the active softening or conditioning material.

(i) "Salt efficiency rating" means the efficiency of the use of sodium chloride salt in the regeneration of a water softening appliance, expressed in terms of hardness removal capacity of the appliance per pound of salt used in the regeneration process. The units of salt efficiency rating are grains of hardness removed per pound of salt used. One grain of hardness per gallon is approximately equivalent to 17.1 milligrams of hardness per liter.

116785. Except as provided in Section 116786, a residential water softening or conditioning appliance may be installed only if either of the following apply:

(a) The regeneration of the appliance is performed at a nonresidential facility separate from the location of the residence where the appliance is used.

(b) The regeneration of the appliance discharges to the community sewer system and all of the following conditions are satisfied:

(1) The appliance activates regeneration by demand control.

(2) An appliance installed on or after January 1, 2000, shall be certified by a third party rating organization using industry standards to have a salt efficiency rating of no less than 3,350 grains of hardness removed per pound of salt used in regeneration. An appliance installed on or after January 1, 2002, shall be certified by a third party rating organization using industry standards to have a salt efficiency rating of no less than 4,000 grains of hardness removed per pound of salt used in regeneration.

(3) The installation of the appliance is accompanied by the simultaneous installation of the following softened or conditioned water conservation devices on all fixtures using softened or conditioned water, unless the devices are already in place or are prohibited by local and state plumbing and building standards or unless the devices will adversely restrict the normal operation of the fixtures:

(A) Faucet flow restrictors.

(B) Shower head restrictors.

(C) Toilet reservoir dams.

(D) A piping system installed so that untreated (unsoftened or unconditioned) supply water is carried to hose bibs and sill cocks that serve water to the outside of the house, except that bypass valves may be installed on homes with slab foundations constructed prior to the date of installation; or condominiums constructed prior to the date of installation; or otherwise where a piping system is physically inhibited.

116786. (a) Notwithstanding subdivision (b) of Section 116785, a local agency may, by ordinance, limit the availability, or prohibit the installation, of residential water softening or conditioning appliances that discharge to the community sewer system if the local agency makes all of the following findings and includes them in the ordinance:

(1) The local agency is not in compliance with waste discharge requirements issued by the California regional water quality control board pursuant to Chapter 5.5 (commencing with Section 13370) of Division 7 of the Water **Code**.

(2) Limiting the availability, or prohibiting the installation, of the appliances is the only available means of achieving compliance with waste discharge requirements issued by the California regional water quality control board.

(3) The local agency has adopted and is enforcing regulatory requirements that limit the volumes and concentrations of saline discharges from nonresidential sources in the community waste disposal system to the extent technologically and economically feasible.

(b) Notwithstanding subdivision (b) of Section 116785, a local agency may, by ordinance, limit the availability, or prohibit the installation, of residential water softening or conditioning appliances that discharge to the community sewer system if the local agency makes all of the following findings and includes them in the ordinance:

(1) The local agency is not in compliance with water reclamation requirements, or a master reclamation permit, issued by the California regional water quality control board pursuant to Article 4 (commencing with Section 13520) of Chapter 7 of Division 7 of the Water **Code**.

(2) Limiting the availability, or prohibiting the installation, of the appliances is the only available means of achieving compliance with the water reclamation requirements or the master reclamation permit issued by a California regional water quality control board.

(3) The local agency has adopted, and is enforcing, regulatory requirements that limit the volumes and concentrations of saline discharges from nonresidential sources to the community waste disposal system to the extent technologically and economically feasible.

(c) Local agency findings shall be substantiated by an independent study of discharges from all sources of salinity, including, but not limited to, residential water softening or conditioning appliances, residential consumptive use, industrial and commercial discharges, and seawater or brackish water infiltration and inflow into the sewer collection system. The study shall quantify, to the greatest extent feasible, the total discharge from each source of

salinity and identify remedial actions taken to reduce the discharge of salinity into the community sewer system from each source, to the extent technologically and economically feasible, to bring the local agency into compliance with waste discharge requirements, water reclamation requirements, or a master reclamation permit, prior to limiting or prohibiting the use of residential water softening or conditioning appliances.

(d) Any ordinance adopted pursuant to this section shall be prospective in nature and may not require the removal of residential water softening or conditioning appliances that are installed before the effective date of the ordinance.

(e) To comply with this section, any local agency described in subdivision (f) of Section 116780 is authorized to adopt an ordinance .

(f) This section shall become operative on January 1, 2003.

116790. Any water softening appliance in place at a residential dwelling prior to January 1, 1980, in those areas being served by sewage treatment facilities that have been limited with regard to salt loading pursuant to Division 7 (commencing with Section 13000) of the Water **Code** and for which the appropriate regional water quality control board makes a finding, after adoption of waste discharge requirements and subject to a public hearing, that the control of residential salinity input is necessary to provide compliance with those limitations, may be continued in operation for a period no longer than four years after the regional water quality control board has made its findings. After the four-year period has elapsed, any water softening appliance at that site shall be set at a salt efficiency rating of no less than 2850 grains of hardness removed per pound of salt used in regeneration when regeneration is initiated with clock controls or manually-initiated controls, or shall have regenerations initiated with demand devices. Also, after the four-year period has elapsed, those water-saving devices in shower heads, on faucets, and in toilet reservoirs, as recited in paragraph (2) of subdivision (b) of Section 116785, shall be installed unless already in place or prohibited by local and state plumbing and building standards. The salt efficiency rating of the water softening or conditioning appliance and the installation of water-saving devices shall be certified in accordance with Section 116795.

116795. The certification required by this article shall be provided by the new user of the appliance and shall be completed by a contractor having a valid Class C-55 water conditioning contractor's license or Class C-36 plumbing contractor's license and filed with the local agency responsible for issuing plumbing permits.

The certification form shall contain all of the following information:

(a) Name and address of homeowner.

(b) Manufacturer of the water softening or conditioning appliance, model number of the appliance, pounds of salt used per regeneration, and salt efficiency rating at the time of certification.

(c) Manufacturer of the water-saving devices installed, model number, and number installed.

(d) Name, address, and the specialty contractor's license number of the C-55 and C-36 licensee making the certification.

Water Code

13050. Definitions

As used in this division:

(n) "Recycled water" means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefor considered a valuable resource.

13260. (a) All of the following persons shall file with the appropriate regional board a report of the discharge, containing the information which may be required by the regional board:

(1) Any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
(2) Any person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
(3) Any person operating, or proposing to construct, an injection well. (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

13263. (a) The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.
(b) A regional board, in prescribing requirements, need not authorize the utilization of the full waste assimilation capacities of the receiving waters.
(c) The requirements may contain a time schedule, subject to revision in the discretion of the board.
(d) The regional board may prescribe requirements although no discharge report has been filed.
(e) Upon application by any affected person, or on its own motion, the regional board may review and revise requirements. All requirements shall be reviewed periodically.
(f) The regional board shall notify in writing the person making or proposing the discharge or the change therein of the discharge requirements to be met. After receipt of the notice, the person so notified shall provide adequate means to meet the requirements.
(g) No discharge of waste into the waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.
(h) The regional board may incorporate the requirements prescribed pursuant to this section into a master recycling permit for either a supplier or distributor, or both, of recycled water.
(i) The state board or a regional board may prescribe general waste discharge requirements for a category of discharges if the state board or that regional board finds or determines that all of the following criteria apply to the discharges in that category:
(1) The discharges are produced by the same or similar operations.
(2) The discharges involve the same or similar types of waste.
(3) The discharges require the same or similar treatment standards.
(4) The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.
(j) The state board, after any necessary hearing, may prescribe waste discharge requirements in accordance with this section.
13269 (a) On and after January 1, 2000, the provisions of subdivisions (a) and (b) of Section 13260, subdivision (a) of Section 13263, or subdivision (a) of Section 13264 may be waived by a regional board as to a specific discharge or a specific type of discharge if the waiver is not against the public interest. Waivers for specific types of discharges may not exceed five years in duration, but may be renewed by a regional board. The waiver shall be conditional and may be terminated at any time by the board.

13521. The State Department of Health Services shall establish uniform statewide recycling criteria for each varying type of use of recycled water where the use involves the protection of public health.

13522. (a) Whenever the State Department of Health Services or any local health officer finds that a contamination exists as a result of the use of recycled water, the department or local health officer shall order the contamination abated in accordance with the procedure provided for in Chapter 6 (commencing with Section 5400) of Part 3 of Division 5 of the Health and Safety Code.
(b) The use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to Section 13521, for the purpose of this section, does not cause, constitute, or contribute to, any form of contamination, unless the department or the regional board determines that contamination exists.

13523. (a) Each regional board, after consulting with and receiving the recommendations of the State Department of Health Services and any party who has requested in writing to be consulted, and after any necessary hearing, shall, if in the judgment of the board, it is necessary to protect the public health, safety, or welfare, prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water. (b) The requirements may be placed upon the person reclaiming water, the user, or both. The requirements shall be established in conformance with the uniform statewide reclamation criteria established pursuant to Section 13521. The regional board may require the submission of a preconstruction report for the purpose of determining compliance with the uniform statewide reclamation criteria. The requirements for a use of reclaimed water not addressed by the uniform statewide reclamation criteria shall be considered on a case-by-case basis.

13523.1. (a) Each regional board, after consulting with, and receiving the recommendations of, the State Department of Health Services and any party who has requested in writing to be consulted, with the consent of the proposed permittee, and after any necessary hearing, may, in lieu of issuing waste discharge requirements pursuant to Section 13263 or water reclamation requirements pursuant to Section 13523 for a user of reclaimed water, issue a master reclamation permit to a supplier or distributor, or both, of reclaimed water.
(b) A master reclamation permit shall include, at least, all of the following:
(1) Waste discharge requirements, adopted pursuant to Article 4 (commencing with Section 13260) of Chapter 4.
(2) A requirement that the permittee comply with the uniform statewide reclamation criteria established pursuant to Section 13521. Permit conditions for a use of reclaimed water not addressed by the uniform statewide water reclamation criteria shall be considered on a case-by-case basis.
(3) A requirement that the permittee establish and enforce rules or regulations for reclaimed water users, governing the design and construction of reclaimed water use facilities and the use of reclaimed water, in accordance with the uniform statewide reclamation criteria established pursuant to Section 13521.
(4) A requirement that the permittee submit a quarterly report summarizing reclaimed water use, including the total amount of reclaimed water supplied, the total number of reclaimed water use sites, and the locations of those sites, including the names of the hydrologic areas underlying the reclaimed water use sites.
(5) A requirement that the permittee conduct periodic inspections of the facilities of the reclaimed water users to monitor compliance by the users with the uniform statewide reclamation criteria established pursuant to Section 13521 and the requirements of the master reclamation permit.
(6) Any other requirements determined to be appropriate by the regional board.

13529. The Legislature hereby finds and declares all of the following:
(a) The purpose of Section 13529.2 is to establish notification requirements for unauthorized discharges of recycled water to waters of the state.
(b) It is the intent of the Legislature in enacting this section to promote the efficient and safe use of recycled water.

(c) The people of the state have a primary interest in the development of facilities to recycle water to supplement existing water supplies and to minimize the impacts of growing demand for new water on sensitive natural water bodies.
(d) A substantial portion of the future water requirements of the state may be economically met by the beneficial use of recycled water.
(e) The Legislature has established a statewide goal to recycle 700,000 acre-feet of water per year by the year 2000 and 1,000,000 acre-feet of water per year by the year 2010.
(f) The use of recycled water has proven to be safe and the State Department of Health Services is drafting regulations to provide for expanded uses of recycled water.

13529.2. (a) Any person who, without regard to intent or negligence, causes or permits an unauthorized discharge of 50,000 gallons or more of recycled water, as defined in subdivision (c), or 1,000 gallons or more of recycled water, as defined in subdivision (d), in or on any waters of the state, or causes or permits such unauthorized discharge to be discharged where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as:

(1) that person has knowledge of the discharge,
(2) notification is possible, and
(3) notification can be provided without substantially impeding cleanup or other emergency measures,

immediately notify the appropriate regional board.
(b) For the purposes of this section, an unauthorized discharge means a discharge not authorized by waste discharge requirements pursuant to Article 4 of Chapter 4 (commencing with Section 13260), water reclamation requirements pursuant to Section 13523, a master reclamation permit pursuant to Section 13523.1, or any other provision of this division.
(c) For the purposes of this section, "recycled water" means wastewater treated as "disinfected tertiary 2.2 recycled water," as defined or described by the State Department of Health Services or wastewater receiving advanced treatment beyond disinfected tertiary 2.2 recycled water.
(d) For purposes of this section, "recycled water" means "recycled water," as defined in subdivision (n) of Section 13050, which is treated at a level less than "disinfected tertiary 2.2 recycled water," as defined or described by the State Department of Health Services.
(e) The requirements in this section supplement, and shall not supplant, any other provisions of law.

- 13520 - *As used in this article "recycling criteria" are the levels of constituents of recycled water, and means for assurance of reliability under the design concept which will result in recycled water safe from the standpoint of public health, for the uses to be made.*
- 13521 - *The State Department of Health Services shall establish uniform statewide recycling criteria for each varying type of use of recycled water where the use involves the protection of public health.*

13522(b) - *The use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to Section 13521, for the purpose of this section, does not cause, constitute, or contribute to, any form of contamination, unless the department or the regional board determines that contamination exists.*

13550. Legislative findings

(a) The Legislature hereby finds and declares that the use of potable domestic water for nonpotable uses, including, but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available which meets all of the following conditions, as determined by the state board, after notice to any person or entity who may be ordered to use recycled water or to cease using potable water and a hearing held pursuant to Article 2 (commencing with Section 648) of Chapter 1.5 of Division 3 of Title 23 of the California Code of Regulations:

(1) The source of recycled water is of adequate quality for these uses and is available for these uses. In determining adequate quality, the state board shall consider all relevant factors, including, but not limited to, food and employee safety, and level and types of specific constituents in the recycled water affecting these uses, on a user-by-user basis. In addition, the state board shall consider the effect of the use of recycled water in lieu of potable water on the generation of hazardous waste and on the quality of wastewater discharges subject to regional, state, or federal permits.

(2) The recycled water may be furnished for these uses at a reasonable cost to the user. In determining reasonable cost, the state board shall consider all relevant factors, including, but not limited to, the present and projected costs of supplying, delivering, and treating potable domestic water for these uses and the present and projected costs of supplying and delivering recycled water for these uses, and shall find that the cost of supplying the treated recycled water is comparable to, or less than, the cost of supplying potable domestic water.

(3) After concurrence with the State Department of Health Services, the use of recycled water from the proposed source will not be detrimental to public health.

(4) The use of recycled water for these uses will not adversely affect downstream water rights, will not degrade water quality, and is determined not to be injurious to plantlife, fish, and wildlife.

(b) In making the determination pursuant to subdivision (a), the state board shall consider the impact of the cost and quality of the nonpotable water on each individual user.

(c) The state board may require a public agency or person subject to this article to furnish information which the state board determines to be relevant to making the determination required in subdivision (a).

13551. Availability of recycled water

A person or public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, shall not use water from any source of quality suitable for potable domestic use for nonpotable uses, including cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses if suitable recycled water is available as provided in Section 13550; however, any use of recycled water in lieu of water suitable for potable domestic use shall, to the extent of the recycled water so used, be deemed to constitute a reasonable beneficial use of that water and the use of recycled water shall not cause any loss or diminution of any existing water right.

13554.2 - *With the consent of the person or entity proposing the use of recycled water, the State Department of Health Services may delegate all or part of the duties that department performs pursuant to this chapter within a county to a local health agency authorized by the board of supervisors to assume these duties, if, in the judgment of that department, the local health agency can perform these duties.*

APPENDIX E
STATE REGULATIONS